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Improving Production and Marketing to Enhance Food Security in Mozambique *

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Mozambique's food production and marketing system faces an enormous set of challenges over the next decade, due to population and income growth, and rapid growth in the urban share of population. The decisions the country makes, and the actions it takes now and over the next decade to deal with these challenges, will have great impacts on its macro economy, on the level and distribution of household income growth in rural and urban areas, on rural-urban migration, and through these on the economic, social, and political dynamic in the country for many years to come.

In the Research Report that serves as the basis of this *Flash*, we examine these food system challenges from the standpoint of the country's principal staple food: maize. We identify steps that the country could take in the short-run to improve the situation, and also emphasize the long-term challenges the country faces. We focus principally on the Center and South of the country because, with South Africa, they form a natural market area due to production patterns and transport costs; maize north of the Zambezi River flows almost entirely to northern cities or to Malawi, or feeds net buyers in the North,

WHAT INFORMATION DID WE USE? We used a broad range of data in this research, including population data from various sources; data from the National Agricultural Smallholder Household Survey that the Ministry of Agriculture conducted in 2002 (TIA02); the Family Surveys of 1996 and 2002 (IAF96 and IAF02) carried out by the Ministry of Plan and Finance; various studies done over the years by the Policy Analysis Department (DAP) and the Agricultural Market Information System (SIMA) of the Ministry of Agriculture; and price data from SIMA's weekly data base running from 1991 to the present.

WHAT DID WE FIND? Seven basic findings came out of the research, each of which we discuss below. Some findings are especially relevant for short-term decision making:

1. ***Most rural households throughout the country, and especially in the South and Center, purchase more maize than they sell.*** In 2002 and 2003, approximately 70% of households in rural areas of the South and Center purchased maize and either did not sell any, or sold less than they purchased: they were net buyers of maize. This fact, together with current levels of urbanization, means that in 2005 *market* demand for maize in rural areas rivaled that in urban areas. Especially in the deficit South, this means that the availability and prices of maize grain in rural areas during the hungry season can have major impacts on the real incomes – and food security – of households.

2. ***Maize meal prices are extremely high in Mozambique.*** The most common maize meal brand cost close to US$800/mt throughout the country at the beginning of 2005, while the cheapest cost close to US$440. Maize grain at retail cost close to US$280/mt during the same period in Maputo. These prices compare to levels

between US$270 and US$330 for comparable meals in Zambia, and grain prices of US$190. Thus, the differential between prices of maize grain and maize meals in Mozambique is much greater than that in other developing countries of the region.

3. Outside of Maputo, almost 70% of consumers depend primarily on purchases of maize grain – not meal – for their maize supply. These consumers either process the grain at home (the typical pattern in the South) or take it to a small hammer mill (in the Center). However, within the city of Maputo, nearly 70% of the population depends on maize meal – not grain. Therefore, the availability and prices of maize grain and maize meals are both very important determinants of the real food prices paid by consumers and, as a result, of their food security, especially among the poorest.

4. The current application of the VAT potentially creates distortions in food markets of the South (and perhaps the Center). A 17% value-added tax (VAT) in Mozambique is applied to imported maize grain but not to rice or wheat. Maize meal is exempt, but not maize grain, meaning that maize grain imported for sale as grain has to pay VAT, while grain imported for processing into meal receives a reimbursement of VAT. Thus, in principle, the way in which the VAT is applied favors the availability of maize meal over maize grain at retail, and favors large industrial millers over small traders and hammer millers. In practice, however, there have been no imports from South Africa or elsewhere of maize grain for sale as grain despite prolonged periods during which such imports would have been profitable, even with VAT being charged. We attribute the absence of imports by small traders to complex import procedures (probably including the VAT) and to the high degree of formality and large scale of the South Africa maize marketing system. We attribute the lack of imports by large formal traders to a combination of factors: consumers in urban Maputo have access to a low cost option in rice, spend relatively little on maize, and most of them are, for this reason, willing to pay the premium for refined maize meal on the small quantities that they do purchase.

Other findings from the research have longer-term implications. For example:

5. Raid growth of the urban population is heavily influencing the challenges faced by Mozambique's food system. From official figures of less than 10% in the 1970s, and a commonly cited figure of 15-20% in the early 1990s, the current urban population of Mozambique is estimated to be 35%. Rural population growth rates were slightly negative between 2000 and 2005, compared with urban growth rates of more than 5%. These patterns will generate an urban population share of 48% by 2015. Thus, a fundamental challenge over the next decade for Mozambique – and for most other Sub countries of -Saharan Africa – is how to feed a rapidly growing urban population, along with continuing significant numbers of rural net buyers.

Economic growth will increase the size of this challenge. Even if growth falls from its recent high levels, total maize demand by the urban population is likely to double over the next decade while the number of farmers may decline. This increased urban demand presents an enormous growth opportunity for Mozambican farmers. However, this growth could easily be satisfied by imports from South Africa if productivity in production and marketing do not improve in Mozambique.

6. The current maize production and marketing system makes it difficult for domestic production to satisfy this growing demand, especially in the rapidly growing industrial milling sector. Mean yields are lower than in neighboring countries, marketing costs are high, quality is generally low, and it is difficult to guarantee a regular supply to large buyers. As a result, the

largest millers in the country, located in Maputo, depend almost exclusively on imported grain from South Africa. The medium-scale millers of the Center and South rely primarily on domestic production, but their market share is very small.

For domestic production to penetrate the industrial maize milling market, active public/private collaboration will be needed in investment to develop the supply chain (for more detail, see the final section of this *Flash*).

7. The maize milling industry in the Center and South is extremely concentrated, which may contribute to the very high maize meal prices in the country. The two largest millers have nearly a 100% market share in Maputo and also sell in the principal cities and rural areas of much of the country. The 25% import duty on maize meal effectively eliminates the possibility of competition from that source. At least three new millers entered the market over the past two years, but their processing capacity is much lower than the two large millers and, at least in the South, they do not appear to have had any impact on the prices charged by these large players.

WHAT DID WE CONCLUDE? Our basic conclusion is that increased productivity throughout the maize supply chain is needed to reduce real prices to consumers while at the same time paying more remunerative prices to farmers. Necessary steps relate to both the import and domestic systems. In general, steps to be taken in the domestic system (investments and their returns) are long-term in nature, while several steps could increase shorter-run efficiency in the import trade.

1. ***Although increased competition in the maize milling sector is needed, it should be approached indirectly.*** It would not be appropriate for the government of Mozambique to directly mediate competition between these companies, and there are no signs that it intends to do so. There are, however, several steps that the government could take to improve competition in the sector.

2. ***The most immediate impact on competition would be achieved through a reduction in the import duty on maize meal***. Currently 25%, this duty is scheduled to fall to 20% on 1 January 2006 as part of the SADC Trade Protocol, with complete elimination in 2012. Reducing the duty more quickly, perhaps to 10% by next January, might provide meaningful competition for Maputo millers. A comparative study of maize meal production costs in South Africa and Mozambique would help provide a good basis for this decision.

3. Other steps involve reducing the cost of supplying maize grain to Maputo and other urban and rural areas of the South and Center, whether from domestic production or imports, so that more consumers can choose to purchase grain rather than meal, and either hand process it or mill it in hammer mills. Activities focused on the domestic supply chain will generate important benefits for farmers and consumers. Yet the payoff will take time to develop; maize imports for the South will be crucial complements to domestic production for the foreseeable future.

4. At least two actions could be taken by government to facilitate efficient trade in maize. First, government could consider converting the value limit in the simplified regulatory procedures for small-scale maize grain imports to a volume limit, and increasing this limit to perhaps 20 metric tons per month. This change would substantially expand the number of small traders who could take advantage of these provisions, and would reduce their unit costs if they were to become involved in maize imports. Second, government could consider phasing out the VAT on maize grain. Because all imports currently are for processing into meal, resulting in eventual reimbursement of VAT, the tax generates no

permanent income for the state. Furthermore, although the VAT alone has not acted as a binding constraint on maize imports for sale as grain, it could become a constraint if the reforms in import procedures suggested above are instituted.

Finally, if the above two measures are taken, and as the cost of trade between Center and South also falls and grain becomes more available at lower prices, government and donors could consider special programs to facilitate rehabilitation of the hammer milling sector throughout the urban and rural South, which has steeply declined in urban areas over the past decade.

5. ***Looking now in the long-term, and with the objective of reducing the cost of maize supplied from the domestic system, government could collaborate with private sector partners in a maize supply chain development program.*** Financing of the program would need to involve public, private, and donor funds. Key elements of this program would include:

- More active marketing information focused on farmers in the Center (and promising areas of the South) and the traders that supply the South from the Center.
- Training of farmers in post-harvest handling procedures to improve quality, and programs to facilitate adoption of improved on-farm storage technology;
- Training for these traders in basic accounting and post harvest handling techniques;
- Promoting more efficient rural assembly of grain through recognized market days, improved physical infrastructure in assembly points, and improved transport services linked to these assembly points;
- Focusing investments in road infrastructure on feeder roads into and trunk roads out of these assembly points;
- Improved marketing infrastructure in public terminal markets of Maputo, Beira, and perhaps other key cities of the South and Center. Improved storage and sales point infrastructure would be especially useful

6. Government and donor investments will be needed for several decades to improve farm level yields. Mozambique's agricultural research institutions have for many years been woefully under-funded and as a result have lost qualified personnel. The recent consolidation of at least three separate institutes into one (*IIAM – Instituto de Investigação Agrária de Moçambique)*, a more aggressive post-graduate training program, and improved operational funding prospects suggest that the country may be entering a period when it can begin more seriously to address its agricultural productivity constraints. These efforts will need to continue for many years.

The following references are all accessible as hot links in the electronic version of this *Flash*. The Research Report that serves as the basis for this *Flash* is:

Toward Improved Marketing and Trade Policies To Promote Household Food Security in Central and Southern Mozambique. David Tschirley, Danilo Abdula, and Pedro Arlindo. Full Report. Presentation.

Other relevant *Flashes* and Research Reports from Minag are Flash 44P, 43P, 43E, 28 P e, 28E; and Research Reports 57E, 54E, and 53P.

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